

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	09/824,552
	Filing Date	April 2, 2001
	First Named Inventor	In Suk Han
	Group Art Unit	1623
	Examiner Name	
Total Number of Pages in This Submission		Attorney Docket No. 1527.MBIO.NP

ENCLOSURES (check all that apply)			
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SIGNATURE OF APPLICANT, ATTORNEY OR AGENT			
Attorney for Applicant	Randall B. Bateman, Registration No. 37,774 Morriss, Bateman, O'Bryant & Compagni, P.C. 5882 South 900 East, Suite 300 Salt Lake City, Utah 84121 (801) 685-2302/telephone; (801) 685-2303 facsimile		
Signature		Date	7-17-01
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PATENT APPLICATION
DOCKET NO. 1527.MBIO.NP

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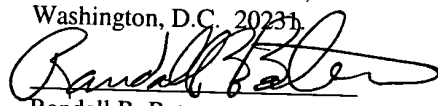
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: In Suk Han
SERIAL NO.: 09/824,552
FILED: April 2, 2001
FOR: METHODS AND
COMPOSITIONS FOR USE OF
CATALASE IN HYDROGELS
AND BIOSENSORS
ART UNIT: 1623
EXAMINER:
DOCKET NO.: 1527.MBIO.NP

CERTIFICATE OF DEPOSIT
UNDER 37 C.F.R. § 1.8

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INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. § 1.97

Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

Please find, pursuant to 37 C.F.R. § 1.98(a)(1), the enclosed Form PTO-1449 which contains a list of all patents, publications, or other items that have come to the attention of one or more of the individuals designated in 37 C.F.R. § 1.56(c). Applicant respectfully submits that this Information Disclosure Statement is filed pursuant to 37 C.F.R. § 1.97 (b), within three months of the filing date of the application, within three months of the date of entry of the national stage set forth in § 1.491 in an international application or before the mailing date of a first Office action on the merits and requests that the references cited in the enclosed form PTO-1449 be made of record in the above-

Assistant Commissioner for Patents
July 17, 2001
Page 2

captioned application. While no representation is made that any of these references may be "prior art" within the meaning of that term under 35 U.S.C. §§ 102 or 103, the enclosed list of references is disclosed so as to fully comply with the duty of disclosure set forth in 37 C.F.R. § 1.56.

Moreover, while no representation is made that a specific search of office files or patent office records has been conducted or that no better art exists, the undersigned attorney of record believes that the references listed, together with any other references which may have been previously submitted or listed, are the closest to the claimed invention (taken in its entirety) of which the undersigned is presently aware, and no art which is closer to the claimed invention (taken in its entirety) has been knowingly withheld.

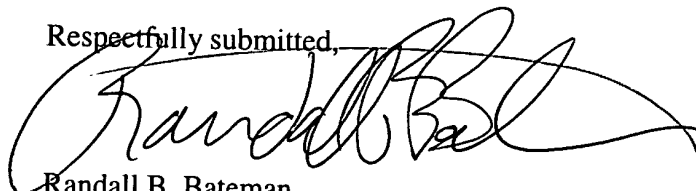
In accordance with 37 C.F.R. §§ 1.97 and 1.98, a copy of each listed reference (or relevant portion thereof) which was not previously submitted to, or cited by, the Patent Office is also enclosed.

Since all listed references are either in the English language or are accompanied by a translation into English, no concise explanation of relevance is required under 37 C.F.R. § 1.98(a)(3).

Please charge any additional fees or credit any overpayment to Deposit Account No. 50-0881.

DATED this 17 day of July, 2001.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Randall B. Bateman", written over a horizontal line.

Randall B. Bateman
Attorney for Applicant
Registration No. 37,774

Assistant Commissioner for Patents

July 17, 2001

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LIST OF PRIOR ART CITED BY APPLICANT

Sheet 1 of 2

Application Number	09/824,552
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Examiner Name	
Attorney Docket	1527.MBIO.NP

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U.S. PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AA	5,141,873	Aug. 25, 1992	Steudle, et al.			
AB	5,665,065	Sept. 9, 1997	Colman, Fredric			
AC	5,967,975	Oct. 19, 1999	Ridgeway, Donald G.			
AD	6,102,856	Aug. 15, 2000	Groff, Clarence			
AE	6,113,539	Sept. 5, 2000	Ridenour, Ken			
AF	6,150,942	Nov. 21, 2000	O'Brien			

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
Ag					

OTHER PRIOR ART (Including Author, Title, Pertinent Pages, Etc.)

AH	ALBIN, G.W., "Theoretical and Experimental Studies of Glucose Sensitive Membranes," J. Controlled Release, 1987, pg. 267-291, vol. 6.
AI	ALLCOCK, H. R., "Synthesis and Characterization of pH-Sensitive Ploy(organophosphazene) Hydrogels," Biomaterials, 1996, pg. 2295-2302, vol. 17.
AJ	BOUIN, J.C., "Relative Efficiencies of a Soluble and Immobilized Two-Enzyme System of Glucose Oxidase and Catalase,," Biochim. Biophys. Acta, 1976, pg. 23-36, vol. 438.
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AN	GHANDEHARI, H., "Biodegradable and pH Sensitive Hydrogels: Synthesis by a Polymer-Polymer Reaction," J. Macrol. Chem. Phys., 1996, pg. 197-980. Vol. 197.
AO	GOUGH, D.A. and LUCISANO, "Transient Response of the Two-Dimensional Glucose Sensor," J., Anal. Chem., 1998, pg. 1272-1281, vol. 60.
AP	GOUGH, D.A., "Two-Dimensional Enzyme Electrode Sensor for Glucose," Anal. Chem., 1985, pg. 2351-2357, vol. 57.
AR	GOUGH, D.A., "Progress Toward a Potentially Implantable, Enzyme-Based Glucose Sensor," Diabetes Care, 1982, pg. 190-198, vol. 5.
AS	ISHIHARA, L., "Glucose Induced Permeation Control of Insulin through a Complex Membrane Consisting of Immobilized Glucose Oxidase and Poly(amino)," Polym. J., 1984, pg. 625-631, vol. 16.
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AU	ITO, Y., "An Insulin-Releasing System that is Responsive to Glucose," J. Controlled Release, 1989, pg. 195-203. Vol. 10.
AV	JUNG, D.Y., "Catalase Effects on Glucose-Sensitive Hydrogels," Macrol., 2000, pg. 3332-3336, vol. 9.
AW	KIM, S. W., "Hydrogels: Swelling, Drug Loading, and Release," Pharm. Res., 1992, pg. 283-290, vol. 9.

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Sheet 2 of 2

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		KLUMB, L.A., "Design of Insulin Delivery Devices Based on Glucose Sensitive Membranes," <i>J. Controlled Release</i> , 1992, pg. 59-79, vol. 18.
AY		KOST, J., "Glucose-Sensitive Membranes Containing Glucose Oxidase: Activity, Swelling and Permeability Studies," <i>Biomater. Res.</i> , 1985, pg. 1117-1133, vol. 19.
AZ		KRYSTEVA, M.A., "Multienzyme Membranes for Biosensors," <i>J. Chem. Tech, Biotech.</i> , 1992, pg. 13-18, vol. 54.
BA		OWUSU, R.K., "Flow Microcalorimetric Study of Immobilized Enzyme Kinetics Using the Co-Immobilized Glucose Oxidase-Catalase System," <i>Biochim. Biophys. Acta</i> , 1986, pg. 83-91, vol. 872.
BB		PHILIPPOVA, O., "pH-Responsive Gels of Hydrophobically Modified Poly(acrylic acid)," <i>Macrol.</i> , 1997, pg. 8278-8285, vol. 30.
BC		PRENOSIL, J.E., "Immobilized Glucose Oxidase-Catalase and Their Deactivation in a Differential-Bed Loop Reactor," <i>Biotechnol. Bioeng.</i> , 1979, pg. 89-109, vol. 21.
BC		RAO, J.K., "Implantable Controlled Delivery Systems for Proteins Based on Collagen-pHEMA Hydrogels," <i>Biomaterials</i> , 1994, pg. 383-389, vol. 16.
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BE		SATO, S., "Self-Regulating Insulin Delivery Systems," <i>J. Controlled Release</i> , 1984, pg. 67-77, vol. 1.
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BG		SERRES, A., "Temperature and pH-Sensitive Polymers for Human Calcitonin Delivery," <i>Pharm. Res.</i> , 1996, pg. 196-201, vol. 13.
BH		SIEGEL, R.A., "pH-Dependent Equilibrium Swelling Properties of Hydrophobic Polyelectrolyte Copolymer Gels," <i>Macromolecules</i> , 1988, pg. 3254-3259, vol. 21.
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BJ		VAKKALANKA, S.K., "Temperature- and pH-sensitive Terpolymers for Modulated Delivery of Streptokinase," <i>J. Biomater, Poly. Sci.</i> , 1996, pg. 119-129, ed. 8.
BK		WASSERMAN, B.P., "High-Yield Method for Immobilization of Enzymes," <i>Biotechnol Bioeng.</i> , 1980, pg. 271-287, vol. 22.
BL		WILKINS, E.S., "Towards Implantable Glucose Sensors: A Review," <i>J. Biomed. Eng.</i> , 1989, pg. 354-361, vol. 11.
BM		WINGARD, Jr., L. B., "Immobilized Enzyme Electrodes for the Potentiometric Measurement of Glucose Concentration: Immobilization Techniques and Materials," <i>J. Biomed. Mater. Res.</i> , 1979, pg. 921-935, vol. 13.
BN		
BO		

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.